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ABSTRACT

Schools are forging linkages with noneducational organizations and agencies to address the needs of all students, particularly those who are most vulnerable to the southwest region's economic and social upheaval. This paper attempts to present an overview of the interrelationship between two elements of the community at large--business and education. It explores the changes in expectations for student achievement within the context of the community within which the educational and private sectors coexist. It begins with a general framework of community context for education, followed by a detailed review of the business community's expectations for student achievement and the current mismatch of expectations between private enterprise and education. Finally, the paper highlights evolving business-education partnerships that appear to bridge the gap. Appended is an outline of a model program--Texas Communities in Schools. (51 references) (RR)

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CRITICAL ISSUES
IN
STUDENT ACHIEVEMENT

BRIDGING THE GAP BETWEEN BUSINESS AND EDUCATION:

Reconciling Expectations for Student Achievement

Paper Number 4
Spring 1990

U.S. DEPARTMENT OF EDUCATION
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PREFACE

This paper was developed as a cooperative effort of two of the Southwest Educational Development Laboratory's (SEDL) programmatic themes, **Facilitating Student Achievement in Reading, Writing, and Thinking, with Partnerships and Technology** and **ED-AIDE Policy Information Services**. The conditions and events affecting school improvement efforts in each state have been unique. Certain trends, however, are reflected in all five states of the southwestern region. First, economic vicissitudes continue to affect social condition throughout the region. Second, dramatic demographic changes are already evident in the growing numbers of African-American and Hispanic students.

Such changes create great stress for children, families, business, and schools to define their goals for education and to measure their success in achieving those goals. Consequently, schools are forging linkages with non-educational organizations and agencies to address the needs of all students, particularly those who are most vulnerable to the region's economic and social upheaval. Finally, states are engaged in an ongoing struggle to define student achievement in terms that make sense to all members of the community—parents, teachers, business people, policymakers, and students.

As a cooperative project this paper aims to address a broad audience, from teacher educators and staff developers to state-level policymakers. Though most educational literature is written with a more narrow focus, this paper attempts to present an overview of the interrelationship between two elements of the community at-large: business and education. The intent is to stimulate communication between them rather than to contribute to their continued isolation. Likewise, the various members of the audience, practitioners and policymakers, must understand one another to effectively carry out their respective responsibilities for educating the region's young citizens.

Southwest Educational Development Laboratory
April, 1990

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BRIDGING THE GAP BETWEEN BUSINESS AND EDUCATION:
Reconciling Expectations for Student Achievement

by

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INTRODUCTION

Today's rapid economic, demographic, and technological changes increase the urgency to establish clear educational priorities for student achievement in the southwestern region. While educators have been working to improve schools in response to legislative mandates for accountability and the research on effective teaching, current events point to a critical mismatch in expectations for student achievement between education and private enterprise. Business leaders like Xerox Corporation's David Kearns complain that graduating students are not adequately prepared to join the work force and that the private sector ends up having to re-educate them. Similar to concerns about student achievement expressed by President Bush and the National Governor's Association, the private sector asserts that low student achievement is a prime cause for the loss of American leadership in scientific and technical development, productivity, and national wealth.

While educators tend to agree that schools must improve, and would like for the public to appreciate its efforts to that end, most disagree with private enterprise on the severity and sources of the problem. According to two surveys conducted by the Allstate Insurance Company together with the American Association of School Administrators and *Fortune* magazine, school administrators believe that schools are doing a "good" to "very good" job of educating students, but business executives believe that schools are only doing a "fair" to "poor" job ("How well," 1990).

This paper explores the changes in expectations for student achievement within the context of the community within which the educational and private sectors co-exist. It begins with a general framework of community context for education, followed by a detailed review of the business community's expectations for student achievement and the current mismatch of expectations between private enterprise and education. Finally, the paper highlights evolving business-education partnerships that appear to bridge the gap.

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THE COMMUNITY CONTEXT OF STUDENT ACHIEVEMENT

A child does not learn in a vacuum. Children learn what their environments require. In the ideal American home, children learn to function in a family setting and to perform certain chores; in attending school, they learn the skills and knowledge necessary to participate in the community as an adult. In addition to school learning, parents often require that children acquire other types of knowledge, like prescribed moral values, religious beliefs, social graces, art, and so forth, from sources like church or synagogue, religious school, youth groups, dance or music lessons, etc.

The educational system does not operate in a vacuum either. Schools were instituted to serve a socialization function to prepare children for adult participation within a particular community culture. The classic image of the American community is a small town where teachers' families live alongside other families, attend the same church or synagogue, do business with the same merchants, and in fact share the same values. The relationship between community and school is reciprocal so that the goals of the latter reflect the values and economics of the former. In that way the school's products, educated youngsters, are prepared to contribute to the continuation of the community—becoming productive adults who marry and have

The Driving Forces of Change

Economic: The way we earn our living. The American economy is changing from an industrial production economy to a service economy. The implications of these changes include changes in the national wealth; the distribution of earnings; the structure, organization, and location of towns and cities; the structure and size of families; and the determination of educational goals and procedures. Current trends toward a global economy have enormous implications for the way we will be earning our living in the future, with predictions of growth for both mega-corporations and small business, while mid-size business is expected to continue its decline.

Political: The way we govern ourselves. While there have been no drastic changes in the basic form of government in America, the alternation of power between the two major political parties brings about changes in the ways government serves the population. Over the past decade, for example, dominance of the Republican party brought reductions in virtually all human services provided by the U.S. government, from public support for the arts to funding for education and the basic housing and food needs of poor people. Politics influence education in the selection of services and programs to fund, and in the selection of criteria by which funding is continued. Current events in foreign relations and political changes across the world evidence a trend toward greater communication and cooperation, resulting in open (no-passport) boundaries. The implications for changes in global politics range from reduced military forces, to international cooperation on such issues as the need to preserve or regenerate the environment.

Technological: The things we create to extend our capabilities. In recent years changes in technology have occurred with greater frequency than changes in the

children, who will in their turn attend the school (Andrews, 1988; Resnick, 1987).

As an old saying goes, "context is everything." Defining student achievement without context is meaningless...

Thus the community provides the context for the educational system, or school. As an old saying goes, "context is everything." Defining student achievement without context is meaningless, and context exists at the following levels:

- *The Personal Context.* The effects of a child's personal context, his or her store of memories, experiences, individual inclinations, preferences, talents, etc., on achievement are well known and documented. Research in English-as-a-second-language provides excellent examples of the effects of previous experience under different cultural values and linguistic systems on subsequent achievement in American classrooms (Canales, 1989).

- *The School Context.* Every school is its own context, as is every classroom. School society and student peer relationships are aspects of school context, as are the physical environment and the organiza-

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other domains, perhaps building the cumulative driving force that has precipitated the sudden economic and political changes evidenced over the past year. Forecasters and leaders in the technology industry itself warn us that we are only in the infancy of technological advancement, and that we haven't yet begun to understand the ways in which technology will change, or how it will change the way we live.

Social: The ways we interact with each other. Of the four forces, social changes typically happen at the slowest pace with the greatest amount of resistance. Today's resurgence of violence against minority groups in some countries may be an example of resistance to social change as people revert to old prejudices under the pressures of economic, political, and technological change. On the other end of the pendulum there are countries in the process of breaking down old walls and granting the rights and privileges of citizenship to minority groups.

These forces act together. The current rapid advancement of technology, for example, helps us form communities with people around the globe, giving rise to the term "Global Village." At the same time economic forces are driving a trend toward more small businesses that uniquely serve local needs in line with traditional geographically based communities. Because of the unprecedented advances in technology in combination with worldwide demographic shifts, it is especially difficult to anticipate how our communities will be affected. According to futurist Arnold Brown[1] the magnitude of current changes is analogous to the order to adapt to changes as these occur. The birth of the Renaissance—the bewildering times that signaled the end of the Dark Ages drastically changed the way people understood their world. Today we are facing equally complex and mysterious changes, yielding unpredictable results. It is therefore critically important to observe ongoing changes closely and maintain flexibility in the organizations of our educational institutions in order to adapt to changes as these occur.

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tion of the school. The learning context of the classroom is shaped by the teacher and the methods she or he employs that may promote or suppress learning.

- *The Community Context.* The school's goals and the ways schools go about their business reflect the community. Perhaps because schools have adapted so well to meet the needs of communities dependent on industrial economies, one of today's most important educational issues is whether schools are producing students with the skills and knowledge needed to enter the future market place. Thus educational goals must be reconciled with the drastically changed needs of the new economics.

Schools were designed to help students accomplish their goals as these fit culturally and socially accepted values; for example, to move out of poverty by learning a trade or profession. The effects of context on student achievement, however, are often best illustrated with instances of mismatches among contexts. For instance, children living in neighborhoods where crime is visibly more rewarding than most adult jobs frequently drop out of school.

One unfortunate by-product of state and federal legislation to ensure civil rights and equal opportunities for all citizens is an erosion of the sense of community.

What was true of the reciprocal relationship between the school and the classical small town community is still true today, only with greater complexity. Over the past forty years the American community has changed from simple and hierarchical to complex and multifaceted, and community agencies, like the school, are now large bureaucratic organizations, with clearly delimited boundaries (Comer, 1988). Many people today believe that the term "community" is no longer a useful description of most geographical, socio-economic environments, where the school has become one of many in a district whose teachers rarely live in the same neighborhood where they teach, and often have little in common with their students. One unfortunate by-product of state and federal legislation to ensure civil rights and equal opportunities for all citizens is an erosion of the sense of community. For instance, many desegregation efforts have entailed transporting children out of their neighborhoods to remote parts of the district in order to achieve equitable racial distribution among the student population. With the enactment of state-wide standards for student achievement the community context for education has been enlarged and diffused again.

Changes in the Educational Context

In her 1987 National Research Council report *Education and Learning to Think*, Lauren Resnick describes the dilemma of the American public school in terms of a revived national interest in high literacy goals for an educational system that was "...from its inception concerned with inculcating routine abilities: simple computation, reading predictable texts, reciting religious or civic codes" (Resnick, 1987, p. 5). Resnick, immediate past

president of the American Educational Research Association, describes the twentieth century evolution of the American public school system as a merger between the European concepts of mass education (only elementary schooling) offering basic reading, writing, and arithmetic, and elite education (private tutoring, preparatory academies, and the early high schools) available to a select few, offering strictly high level academics. Public high schools changed in response to changing economic and social conditions, enabling more and more young people to attend, and inevitably these schools became institutions of mass education following the "low literacy" tradition, aiming to produce minimal levels of competence in the general population. The elite approach to education, stressing high academics, continued to be the domain of private or proprietary academies.

Naturally the outcomes of these two approaches to education are quite different, with private or proprietary school students typically outperforming the public school students on academic measures, as well as measures of attendance, disruptive behavior, and so forth (Coleman, Hoffer & Kilgore, 1982). Speculating on the causalities of the pervasive differences between the two types of schools, Associate Director of the Texas Catholic Conference George Solana[2] described the "supportive communities" of private and proprietary schools, where parents, teachers, and students share the same values for achievement. The public school, in contrast, has lost its foundation in the neighborhood community, the school has become separated from the economic and social communities of the classical American town, and public school students and their families do not necessarily share common values; there is no equivalent supportive community for most public schools (Coleman & Hoffer, 1987).

As part of an institution that serves a community purpose but functions as a separate entity, educators have been virtually isolated in facing the challenge of educating a changing population from diverse backgrounds, while increasingly being held accountable for demonstrations of standardized achievement results. The rapid advance of technology applies another external pressure to improve student achievement. In the meantime, educational researchers and developers have been exerting internal pressure to improve education as indicated by research on the phenomena of high level achievement and its cognitive and instructional correlates.

Responding to these external and internal pressures to change, educators are currently exploring the effectiveness of integrated curriculum to span grades and/or courses (for example, California's integration of history with the social sciences); of instructional methods based in natural learning processes (for example, the Whole Language approach to reading and writing); and cooperative learning groups. Similarly, the use of technology in education is being developed in a number of ways; for example, to supplement basic skills; to improve standardized test performance; to simulate laboratories allowing students to explore and experiment with concepts or

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even chemicals that would otherwise be out of the realm of possibility; to provide students with desktop publishing capabilities, supporting their efforts in newspaper and project production; and to deliver advanced instruction otherwise not available to students living in remote areas.

Educators, like business executives, also have been forced to re-examine their organizations as our national economy has changed. School restructuring and site-based management are two concepts directly analogous to the changes in business organizations evidenced over the last decade.

THE RELATIONSHIP BETWEEN BUSINESS AND EDUCATION

One by-product of the changes in our communities is the influence of special interest groups on school district policy and practice. These groups are functional communities of people who share some set of values; for example, religious or ethnic loyalties, and who have an active interest in the type of learning experiences their children receive in the public school system. One community that has recently become more vocal about its expectations for education is composed of American business people. Dependent upon schools for the preparation of the workforce, private enterprise has begun to voice its concern that entry level workers are not prepared for their jobs. Its concern is that, if today's students are not adequately prepared for the current job market, then how well will tomorrow's students be able to fill the highly skilled positions that will characterize the future workplace?

Many other special interest groups are equally vocal in expressing other educational concerns. However, the concerns of the business sector have received the strongest attention from both policymakers and the American public at large, primarily because of the decline of the U.S. economy in the international marketplace and the declining performance of U.S. students relative to those in other industrialized countries.

Changes in the Nature of Work

Although we are in the midst of one of the most extended periods of employment growth in our history, forecasts of future labor shortages are common; the *quality* of the future work force has emerged as a problem that will contribute to the shortage. American businesses have created nearly 16 million jobs since 1982, two and a half times as many new jobs as the other six major industrialized nations combined. However, as Jon Sargent, a U.S. Bureau of Labor Statistics economist, noted in a recent issue of the *Occupational Outlook Quarterly*, over the next 15 years the United States will face a growing mismatch between job requirements and the skills possessed by applicants; labor shortages that arise between 1986 and the year 2000 are expected to be due to this mismatch (ASPA Survey, 1989).

The Hudson Institute's *Workforce 2000* report confirms the belief of those involved in job-related education and training that the jobs of the future will require more sophisticated skills than today's jobs (McLaughlin, 1988).

The majority of new jobs will require higher skill levels, and jobs that are in the middle of the skill distribution today will be the least skilled occupations of the future. Only 27% of all new jobs will fall into low skill categories, compared to 40% of jobs today (McLaughlin, 1988).

The number of jobs that require only rudimentary skills and a willingness to work hard is rapidly declining. Dr. Sue Berryman, Director of the National Center on Education and Employment, cites examples such as insurance claims adjusters and bank clerks. For these positions, computerization has caused as many as five jobs to be melded into one. What used to be a succession of simple tasks calling for "specific and splintered knowledge" now requires people with good communications skills who have the ability to analyze customer needs, to understand several types of information and the relationships among them, and to respond to nonstandard requests (McLaughlin, Bennett, & Verity, 1989).

In short, most future workers will be required to work within more complicated environments while performing multiple and more intricate tasks. Experts, both in and out of government, agree that the competitive global marketplace, increased domestic competition due to deregulation, the pace of technology development, shorter product life cycles, and new flexible production processes all require more adaptable, more highly educated entry workers in order for our country to remain competitive. Consider:

- The Commerce Department reports that approximately 90% of all scientific knowledge has been generated in the last 30 years. In the next 10 to 15 years, this pool of knowledge will double again (McLaughlin, et al., 1988).

- Mellon Bank President and CEO David Barnes says, "Change is accelerating at a dizzying pace...(Our company) must upgrade or replace its mainframe computer on average every 18 months" (McLaughlin, et al., 1988, p. 9).

- Susan Hooker, Director of Planning, Evaluation and Retraining for Motorola, says entrants to the work force in 1989 can expect to need eight to ten new sets of skills during the course of their lifetimes (Fisher, 1990).

The accelerating pace of change has enormous implications for the workplace of the future and for entry level workers. It is clear that labor market developments over the remainder of this century will demand a flexible and adaptable workforce, able to shift rapidly as foreign competition and technology eliminate some jobs while creating others. Post-secondary education and retraining will become increasingly important.

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While education for the workforce becomes more important, demographic trends suggest that it will also become more difficult because the workforce is also changing.

Changes in the Workforce

The group of 16-24-year-olds that is the traditional source of new workers is shrinking and its demographics are changing. As a result, employers will have to reach into the ranks of the less qualified to get their entry-level workforce (Carnevale, et al., 1989). In fact, a growing share of new workers will come from groups in which human resource investments have been historically deficient. It is predicted that in the 1990s some 80% of new workers will come from population groups that traditionally have been weakest in fundamental basic skills—the economically and educationally disadvantaged (Skulley, 1989).

To survive and compete in a rapidly changing world economy, American companies need workers who can operate computers, analyze data, read, and understand complicated instructions

The projected deficiency in basic skills among new workers is alarming because literacy and employability have a direct relationship to each other. Analysts of the U.S. Department of Labor estimate that four to six million of the eight million unemployed American workers lack the basic skills that would allow for retraining by employers for new jobs in the next few years (Bureau of National Affairs, 1984). This "specter of illiteracy is haunting the U.S. labor market" according to *Functional Literacy and the Workplace*, a publication of the American Council of Life Insurance. Furthermore, literacy experts agree that the shift to a service/information economy will require greater worker literacy.

Employers who must draw on the undereducated or the uneducated will suffer in terms of lagging productivity, higher training costs, and a competitive disadvantage that will result in lost sales and profits. In addition, there will be costs to the community and to society at large, some of which are represented in the following statistics:

- The lifetime economic cost from the 1986 crop of school dropouts will be $147 billion, a sum greater than the $145 billion Gramm-Rudman-Hollings budget deficit target for that year (Catterall, 1985).

- For each cohort of dropouts, it costs the state of Texas alone $17.12 billion in (a) foregone income and lost tax revenues, and (b) increased costs in welfare, crime and incarceration, unemployment insurance and placement, and adult training and education (Texas Department of Community Affairs, 1986).

The problem would be bad enough if the U.S. economy were still dominated by assembly lines. But the manufacturing age has come and gone,

and today's jobs demand far greater mental agility. To survive and compete in a rapidly changing world economy, American companies need workers who can operate computers, analyze data, read, and understand complicated instructions (Lopez, 1989). However, there is growing evidence that such workers are already difficult to find.

> "We're forced to hire the best of the worst," complains Irving Margol, the executive vice president at Los Angeles-based Security Pacific Corp. Thousands of the applicants that his department interviews each year for entry-level teller jobs can't add and subtract well enough to balance their own checkbooks. "I'm almost taking anyone who breathes," he says (Lopez, 1989, p. R12).

About 80% of all applicants screened nationally by Motorola Inc. fail an entry-level exam that requires proficiency in seventh-grade English and fifth-grade math. Last year, New York Telephone Company received 117,000 applications when several hundred full-time positions opened up. Fewer than half these applicants qualified to take the basic employment exam, and of those, only 2,100 passed (Lopez, 1989).

STUDENT ACHIEVEMENT FOR THE NEW WORKPLACE

To identify the specific skills, competencies, and attitudes needed for the technological workplace, the U.S. Departments of Labor, Education, and Commerce established the Commission on Workforce Quality and Labor Market Efficiency in 1988. The Commission reviewed studies and conducted forums with business and education leaders in many communities. The Commission's report, *Building a Quality Workforce*, concluded that educators agree with business about the overall goals of education and about the skills needed in the workplace (McLaughlin, et al., 1988). However, while many employers say that the most important skills for any employee are the traditional academic triumvirate—reading, writing and arithmetic—further probing reveals that they want much more.

> Employer complaints focus on serious deficiencies in areas that include problem solving, personal management, and interpersonal skills. The abilities to conceptualize, organize, and verbalize thoughts, resolve conflicts and work in teams are increasingly cited as critical (Carnevale, et al., 1989, p. 8).

The one idea that is common in all studies and publications is that employers want employees who have "learned how to learn" (Carnevale, et al., 1989; McLaughlin, et al., 1988; Committee for Economic Development, 1985). As the Panel on Secondary School Education for the Changing Workplace concluded, whether a young person is college bound or intends to enter the work force directly after completing high school,

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> the need for adaptability and lifelong learning dictates a set of core competencies that is critical to successful careers of high school graduates. These competencies include the ability to read, write, reason and compute; an understanding of American social and economic life; a knowledge of the basic principles of the physical and biological sciences; experience with cooperation and conflict resolution in groups; and possession of attitudes and personal habits that make for a dependable, responsible, adaptable, and informed worker and citizen (Panel on Secondary School Education, 1984, p. 19).

The panel went on to note that training in specific vocational skills will increase employability and is naturally desirable, but no other skills, however useful or worthwhile, can substitute for the core competencies (Panel on Secondary School Education, 1984).

National Alliance of Business staff recently assisted the American Society for Personnel Administration with a national survey of ASPA members. While 43% of the 700 human resource professionals who responded to the survey noted problems in finding applicants with job-specific or technical skills, individual basic skills deficiencies outweighed any single lack of technical skills. For example, more employers found difficulty recruiting applicants with verbal communication skills, English language proficiency, basic math, and basic reading ability than they did in finding workers with appropriate computer or word processing skills (ASPA Survey, 1989).

The ASPA survey and the research initiative of the Commission on Workforce Quality and Labor Management Efficiency are evidence of consensus that the following are critical areas where student achievement must improve: reading and writing, mathematics, communication skills, problem solving, self-direction and initiative, teamwork, flexibility, and positive work habits.

Reading and Writing

An overwhelming majority of the business representatives consulted for the *Building a Quality Workforce* report indicated that entry level workers should read at least at the eighth grade level. Approximately half of the educators consulted believed eighth to ninth grade reading levels would satisfy most entry level workplace requirements; the other half noted that they believed a tenth to twelfth grade reading level was required (McLaughlin, et al., 1988).

But today's workplace increasingly involves interaction with sophisticated, computerized machinery that requires good reading skills for efficient use. Research at Indiana University has found that 70% of the reading material in a cross section of jobs nationally is now between ninth-grade and twelfth-

grade difficulty (some 15% is even higher)—and it is likely that the job and social requirements for literacy will increase even more in the years ahead. While the content of manuals and required reading materials is increasingly technological and difficult to read, greater demands are being made on entry level workers to use them to maintain and upgrade the equipment they operate (McLaughlin, et al., 1988).

According to Gordon Bonfield, CEO of Tenneco in Houston, "Writing skills continue to decline. This is the area where we have had to do the most remedial work over the past 5-10 years at all levels" (McLaughlin, et al., 1988, p. 14). Inability to write clearly and correctly was the most common single deficiency cited by respondents in a survey conducted by the American Society of Personnel Administration (ASPA Survey, 1989).

Mastering reading and writing in an academic setting does not necessarily mean that students are prepared for the way they will use the skills in the workplace. "Reading tasks on the job are different. They require the reader to be analytical, to summarize information, and to use higher order thinking strategies to solve problems" (Carnevale, et al., 1989, p. 10). The traditional classroom approach to teaching writing focuses on description or on the articulation of learned responses concerning facts and events. Workplace writing relies on analysis, conceptualization, synthesis and distillation of information, and clear, succinct articulation of points and proposals (Carnevale, et al., 1989).

Workers spend an average of one and one-half to two hours per workday engaged in reading forms, charts, graphs, manuals, computer terminals, and so on. Writing remains the primary form of communication for transmitting policies, procedures, and concepts. Deficiencies in such basic workplace skills as reading and writing create barriers that impair an employer's ability to meet strategic goals and are reflected in productivity decline, increased accident rates, and costly production errors (Carnevale, et al., 1989).

Mathematics

Computation is used daily in the workplace to conduct inventories, report on production levels, measure machine parts or specifications, and so on. Nine out of ten employers consulted indicated that entry level positions require a solid basic mathematical foundation and that entry workers should be able to work with fractions and decimals, determine proportional relationships, and work with metric measurements (Carnevale, et al., 1989).

In contrast, a survey of educators with regard to mathematics skills needed for entry level work produced mixed findings. Roughly half of the educators indicated that basic computation skills of addition, subtraction, multiplica-

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tion, and division would meet entry level requirements; slightly fewer expressed the need to go beyond these basics by including the ability to work with fractions, decimals, and spatial concepts; incredibly, only one in ten educators indicated that entry level workers must become computer literate (McLaughlin, et al., 1988).

Furthermore, there is evidence of insufficient preparation at even the minimum levels of competency. The Mathematics Report Card issued by the National Assessment of Educational Progress in June 1988 stated that nearly half of American 17-year-olds cannot perform math problems normally taught in junior high school, 27% of 13-year-olds could not perform math work normally taught in elementary school, and only six percent of 17-year-olds could solve problems that required several steps of algebra (McLaughlin, et al., 1988).

Communication Skills

While educators were unanimous in agreement about the importance of effective communication skills, both speaking and listening, ironically, American schools offer little formal instruction in oral communication or listening.

Reading and writing are essential communication tools, but it is through listening and speaking that we interact most frequently. The average person spends 8.4% of communications time writing, 13.3% reading, 23% speaking, and 55% listening (Carnevale, et al., 1989). Not surprisingly, therefore, nearly all business representatives stressed the importance of communication skills, noting advancement beyond entry level is highly unlikely without this ability (Carnevale, et al., 1989; McLaughlin,et al., 1988). In fact, recent studies have indicated that only job knowledge ranks above communications skills as a factor for workplace success (Carnevale, et al., 1989).

Nevertheless, businesses consistently noted that entry level workers and applicants did not have the skills to speak and explain ideas clearly, answer and ask questions, or follow verbal directions. Persuasiveness, personal and telephone etiquette in customer service, and ability to interact with customers, peers, and management were identified by employers as desirable and necessary skills (McLaughlin, et al., 1988).

While educators were unanimous in agreement about the importance of effective communication skills, both speaking and listening (McLaughlin, et al., 1988), ironically, American schools offer little formal instruction in oral communication or listening. The American Society for Training and Development found in a survey of public schools that while extensive formal training in reading and writing is provided, instruction in speaking skills is generally provided only as an elective course linked to drama, debating, and so on. Virtually no training in listening is available (Carnevale, et al., 1989).

Problem Solving, Self-Direction and Initiative, Teamwork

Many of today's entry level jobs require a greater span of responsibilities than in former years. Skills, attitudes, and abilities generally thought of as needed at the supervisory and managerial level are now frequently required for entry level workers. In various studies, businesses, regardless of location, size, or type, consistently noted deficiencies in such areas as problem solving, self-discipline, acceptance of responsibility, reliability, initiative, teamwork, and the work ethic (Carnevale, et al., 1989; McLaughlin, et al., 1988; Committee for Economic Development, 1985).

Most business representatives indicate they want entry level workers to operate with a minimum to moderate amount of supervision. Deidre Abair of the *Atlanta Journal and Constitution* says, "Seventy-five percent of entry level positions require a person to function relatively independently after a probationary period" (McLaughlin, et al., 1988, p. 17). John Ziegmann of ZMark in Houston notes, "Minimal supervision is important. In a small business, every person is critical. Each person is on his/her own, making hourly decisions" (McLaughlin, et al., 1988, p. 17).

Problem-solving skills identified as important include the ability to recognize and define problems, invent and implement solutions, and track and evaluate results. Cognitive skills, group interaction skills, and problem-processing skills are all crucial according to employers (Carnevale, et al., 1989).

Flexibility and Adaptability

The Panel on Secondary School Education for the Changing Workplace surveyed member companies to determine what sort of worker will prosper in the future. Noting that future careers will be built on "a series of jobs, often involving new responsibilities, new knowledge, and new skills," the overwhelming response from the survey was "a person who is able and willing to learn throughout a working lifetime" (Panel on Secondary School Education, 1984, p. 19). Both educators and business agreed with this assessment. As Donald Howard, District Vocational Coordinator in Palatine, Illinois puts it, "Flexibility and adaptability are critical for new workers. Technology is changing so fast that if employees do not change with it, they will become obsolete–victims of 'Future Shock'" (McLaughlin, et al., 1988, p. 29).

Positive Work Habits

Finally, employers noted that they needed—but were frequently unable to recruit—employees with positive attitudes and work habits. They want employes who have the ability to work cooperatively with people of different personalities, race and sex, across different authority levels and organiza-

tional divisions, and they want employees who are punctual and dependable and who show pride and enthusiasm in performing well (McLaughlin, et al., 1988; Committee for Economic Development, 1985).

ENGAGING THE BUSINESS COMMUNITY

While *Building a Quality Workforce* reports general agreement among education and business leaders about goals for student achievement, it also points out that the two sectors have different perspectives on the problem (McLaughlin, et al., 1988). Many educators feel that schools do prepare students for entry level jobs; few agree that the gaps in preparation are as severe as the business community maintains. Such disagreement—and the lack of communication that underlies it—is the first barrier that must be overcome in setting an effective agenda for student achievement.

Public/private partnerships between schools and business have done much to eliminate boundaries and to bring communities together. Since the early 1980s business-education ties have grown swiftly, prompted by concern about the changing demographics of the workforce and an economy that requires a more educated workforce. Thomas W. Evans, chairman of the Education Committee of the Presidential Board of Advisors on Private Sector Initiatives, has estimated that 60,000 business-sponsored projects are currently underway in U.S. schools (Rothman, 1986).

Ensuring that collaborative programs are successful is of concern to both the public and the private sector partners. The literature suggests several reasons that collaborative endeavors have difficulties enduring over the long term; barriers are usually related to commitment, communications, and evaluation.

Commitment

Restructuring of the workplace has been neither painless nor swift, and restructuring of educational institutions to meet the new requirements of the economy will be equally difficult.

Care must be taken to provide ownership in programs for all participants. The decision to adopt a program is usually made at a high level, by the Superintendent and the CEO, and so has top-level support. However, there is frequently a lack of commitment to the program on the part of those who are more directly involved. The ways in which the top level expresses its support have a critical effect on lower- and middle-level commitment. Workplace circumstances and conflicting top-level expectations for job performance may also cause employees to actively resist participating in business-education partnerships.

Initial resistance at the first line level, by teachers and business employees who become mentors, volunteers, tutors, etc., can be overcome fairly rapidly because those first line participants are in a position to see the positive effects that a program has for students. However, in an examination of four programs, Nasworthy (1989) found steadfast and prolonged resistance from supervisors and middle managers in both school and business organizations; these personnel, concerned with the preservation of organization

rules, were uncomfortable with programs that require accommodations to differences in organization schedules and operating procedures.

Educators are traditionally reluctant to allow non-educators to become too heavily involved in school affairs, and may look upon long-term collaborative efforts as an attempt to encroach upon and usurp their authority (Chaffee, 1980; Mann, 1987). There is the suspicion that, through involvement, business may seek opportunities to press its own interests or influence public priorities (Task Force on Private Sector Initiatives, 1985). On the other hand, the business community has difficulty understanding that what is needed is not a "quick fix," but a patient effort in strengthening the capacity of educators to do their jobs. Restructuring of the workplace has been neither painless nor swift, and restructuring of educational institutions to meet the new requirements of the economy will be equally difficult. Both business and schools must be educated to think of their alliances as long-term partnerships toward a common goal. Over time, they might overcome resistance born of misunderstanding.

Communications

Research shows that educators tend to worry that business demands a vocational focus at the expense of academic subjects. In reality, however, surveys show that business leaders seek a broad general education for all students, indicating that they prefer to train workers in specific job skills (Mann, 1987; Otterbourg & Timpane, 1986). At the program level, Nasworthy (1989) found that while chief administrators on both the business and educational sides have clear ideas about program goals, those goals are frequently not communicated to middle managers and first-line participants.

Furthermore, in actual program implementation, the inherent difference in organizational structure (business-centralized versus education-decentralized) results in miscommunication. Business people have difficulty understanding that they can't deal with educational management alone, but that teachers and instructors must be involved (Chaffee, 1980) in order to implement enduring changes. As in the case of developing commitment, both sectors must be educated in the issues and problems of the other to establish a common language in which they can communicate.

Evaluation

As collaborative efforts increase and expand, it becomes important to assess whether such efforts successfully achieve their goals; that effort is usually undertaken in a program evaluation by the local institution. The U.S. General Accounting Office, in an extensive national study of over 1,000 collaborative dropout programs, found that most programs have not been formally evaluated (GAO, 1987). Programs do frequently have published annual

reports which usually include some data on the kind of activity and the number of participants but seldom include a determination of the extent to which the program was a contributing factor in such areas as improved student achievement, retention, or recovery (Otterbourg & Timpane, 1986).

In a limited study, Nasworthy (1989) found that even when programs were evaluated, the evaluation information was not shared with program participants other than top level decision makers and funding sources, nor was the evaluation information used for refining, extending, modifying, or eliminating programs.

IMPLICATIONS

To assure that our educational institutions are preparing students to enter the workplace of tomorrow, mechanisms are needed to reduce the separation of the business and education sectors and to recognize that they are both essential elements of the community. One major goal held in common by educators and business people is to ensure quality of life in the community they share, i.e., its economic and cultural well-being. To achieve these community goals all members of the community must work together to set and maintain appropriate academic standards and demonstrate to students the connection between performance in school and employment opportunities. Educators must have the support of all community sectors in presenting a unified message conveying the importance of attendance, homework, behavior in class, responsiveness to authority, and other indicators of maturity and responsibility generally used in the workplace.

Recommendations for Policy and Practice

Business practitioners should help educators and students understand the performance standards expected in the workplace; help educators and students understand economic and labor market trends; anticipate future needs; and communicate these needs to educators, to parents, to students and to other community resources that can help address the needs (McLaughlin, et al., 1989).

Public/private sector partnerships should be expanded. Successful partnership programs have developed strategies to help ensure their successful integration in the educational organization and their continuing support by the business sector. For example, Texas' Communities in Schools program has developed strategies to improve commitment, communication, and evaluation that can serve as models for other partnerships. Among the specific strategies that should be undertaken by business/school partnerships are the following (see Appendix for specific applications of strategies by Texas Communities in Schools):

- *Involve campus personnel, teachers and administrators as early as possible in the discussion and consideration of adopting a public/private sector program.* Faculty representatives can report to faculty

on plans and report to decision makers any faculty suggestions and/or apprehensions as the program is conceptualized. Such involvement should improve faculty understanding of corporate motivation and program goals and help create a shared vision of what the program is and what it can be.

- *Ensure that a network for communication and mediation is developed.* Orientation and training should be provided for all participants of the program, and regular feedback on program developments should be shared. Communication and mediation are essential for mutual respect and trust. Jo Swinney of Tenneco demonstrated this in talking about the Tenneco/Jeff Davis High School Project: "I never considered this program wouldn't work. There are ways that you establish trust. It wasn't easy. But we just kept working. Communication is the key" (Nasworthy, 1989, p. 118).

- *Improve the evaluation process, use evaluations for planning program improvements, and report evaluation results widely.* Since even global evaluations suggest weaknesses and/or goals that are not being successfully achieved, they should be used in evaluating the processes currently being used and in planning enhancements to the program. Evaluation results should be reported to all corporate and school personnel, including teachers. Awareness of program success would probably do much to create acceptance and support of programs.

It is clear that while they may have parallel goals, corporations and educational institutions differ in operation and in the way that each organization will approach a challenge.

Training and orientation material for school personnel should include information on the corporate organization, its culture, history, policies, and operating procedures, as well as information on program goals. In like manner, corporate orientation should include information on the culture of the host organization and community as well as information on program goals and the targeted population.

The difference in organizational goals and the specialized language used by both educators and business practitioners requires a key person to be what successful programs have identified as a "translator" or "bridge" between the business and educational organization (Nasworthy, 1989). Andrews (1987) calls these individuals boundary spanners the "sensory organs for their organizations."

To facilitate good communications, a partnership coordinator should be designated. It is clear that while they may have parallel goals, corporations and educational institutions differ in operation and in the way that each organization will approach a challenge. It is important to bridge those differences and to help the organizations communicate, plan, and work together.

The key communicator may be a member of the educational organization, the business organization, or a volunteer or representative from another involved organization. The essential requirement is that each program have someone who can decode the positions taken by business practitioners and encode them into the customary verbal repertoire of educational practitioners, and vice versa.

CONCLUSION

The conventional wisdom of the past has been that education should be left to the professionals, but conventional wisdom and practices resulting from that understanding are changing. As major contributors of tax dollars that go to public education, both citizens and corporate America are demanding an acceptable return on their investment.

Employer interest in improving basic skills is driven by economic concerns. When deficiencies affect the bottom line, employers respond with training or replacement. But the time-honored choice, replacement, is becoming less practical because the supply of workers is shrinking. Increasingly, employers are forced to make rather than buy productive employees; therefore, corporate America is joining with the educational profession and with policy makers in looking for ways to improve public education, not to be charitable, not to promote better public relations, but to survive.

In their book, *Winning the Brain Race*, David Kearns, CEO of Xerox and Denis Doyle, Senior Research Fellow, Hudson Institute, sum it up:

> The simple truth is that we can't have a world class economy without a world class workforce, from senior scientists to stockroom clerks. And we cannot have a world class workforce without world class schools (quoted in McLaughlin, et al., 1988, p. 12).

However, we cannot have world class schools without partnerships between schools and business. Members of both sectors must learn that working together requires give-and-take. Business needs to recognize that schools are really making an effort to improve job readiness but that they have other legitimate goals as well. Schools need to listen more closely to what business says it needs, and be willing to work toward those needs. Only by working together can we achieve and maintain our world class stature.

ENDNOTES

[1]From comments made during Mr. Brown's keynote speech at the Electric Power Research Institute's Research Results Seminar on Issues Identification and Management, held in San Francisco, May 16 & 17, 1989.

[2]Observation made during Mr. Solana's participation at the October, 1989 meeting of the New Mexico Analysis Committee of the SEDL•SCAN issues identification and tracking system.

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APPENDIX

Texas Communities in Schools: A Model Program

Texas Communities in Schools (CIS) is a school based drop-out prevention program. A replication of a nationally recognized model program, Cities in Schools, the Texas program has been recognized as an exemplary program, and incorporates many of the recommended strategies for improving commitment, communications, and evaluation in partnership projects. Eight Texas districts are currently involved in this program, with plans to expand to ten additional campuses this year.

The approach of CIS is to combine and coordinate community services and efforts in order to focus on the whole student. This philosophy is exemplified by the goals of the program which include the following: to improve school attendance; to improve academic achievement; to promote positive personal and social development; to develop employment and vocational skills; to increase parental involvement in school activities; to decrease the incidence of disruptive behavior in the classroom and community; and to decrease participants' contact with the juvenile justice system.

Statewide, CIS is administered by a Director and Assistant Director and activities are overseen by an Advisory Board. In addition, each local program has a director. Sometimes directors are drawn from school personnel, sometimes they are a loaned executive, sometimes they are a social worker. The key qualification for this position is that the person be able to communicate with all relevant parties and serve as a bridge between the corporate, education, and social services communities. The local director is selected by and reports to an advisory board made up of local businessmen and women, health and human services experts, and school personnel. Regular monthly meetings ensure frequent communication and common understanding and support of program goals and objectives. In addition, a newsletter produced by the state office keeps individual program participants and sponsors up to date on innovative practices, funding information, and relevant legislative policy. The newsletter also provides "success stories," case studies of individual student participants and program evaluation results.

At campus sites, CIS programs typically have a staff of counselors, employment specialists, and health and recreational specialists who identify and work with high-risk youth. Staff members are supported through private contributions and grants or are loaned by community and/or state social service agencies and businesses and repositioned on the school campus. For example, the local United Way might provide a counselor and the local office of the Texas Employment Commission might provide a part-time job counselor; both would be paid by their own agencies but would be repositioned to the school campus where they would work with the CIS program. Full time and part time paid staff are augmented by community volunteers who are recruited and trained to work in the program. Both staff and

volunteers undergo orientation and training and meet regularly with program directors to share information and provide feedback. Since the programs are school-based, CIS staff and volunteers adhere to the school calendar and the school day. They attend faculty meetings and participate actively in all school functions.

On the school campuses, CIS operates six components aimed at keeping children in school and out of trouble. Services include academic remediation; parental involvement; individual, group, family and vocational counseling; health services and referrals; job development for students and their parents; and enrichment activities.

In addition to corporate grants and foundation grants, CIS makes use of existing funding sources: for example, juvenile justice funds might provide an on-site probation counselor or a drug abuse program; JTPA funds provide career readiness training and support services such as transportation and day care. In short, rather than setting up services "in competition" with those offered in the communities and in the schools, CIS programs coordinate their efforts with schools and other agencies to make more efficient and more effective use of existing funds and services (Ruiz, 1987).

CIS programs are evaluated annually, using procedures developed with input from program participants, instructors, volunteers, and educational and corporate administrators. Both quantitative and qualitative procedures are used in an effort to document the outcomes of the program in relation to program goals. Evaluation efforts include monitoring drop-out rates, test scores, average daily attendance, and discipline records. Additionally, program participants, parents, teachers, and administrators are surveyed as to their attitudes and their opinions on the link between services provided and positive outcomes. Evaluation results are reported widely through press releases to the local media, formal written reports to corporate sponsors (often reported in employee newsletters) and local educational trustees, and verbal presentations to faculty meetings, civic organizations, and community groups.

A recent evaluation of CIS programs in a San Antonio district is typical of the evaluations that local programs receive. School administrators reported CIS to be a significant factor in improving academic performance, attendance, and social development and in providing needed services for student participants. Administrators also noted that CIS is effective in providing counseling services, tutoring, and enrichment for students, and in providing assistance to teachers. Seventy percent of teachers gave CIS a good rating for providing counseling help and effectively influencing behavior and attitudes (San Antonio CIS, 1988).

Seventy percent or more parents gave CIS high marks for providing counseling help and having a positive influence on grades, attendance, and

school behavior. Sixty-nine percent of parents felt students had better attitudes and 62% felt students' behavior at home was better because of CIS participation. Students likewise rated CIS services as critical to their success in school. Seventy-six percent reported difficulties in school, with 86% saying that CIS counseling helped them overcome those difficulties. Seventy-four percent reported making Cs or better and 97% reported they plan to stay in school and graduate (San Antonio CIS, 1988).

Currently, CIS is developing a management information system that will allow long-term tracking of program participants. This information will be used in longitudinal studies and comparative studies to be conducted by independent researchers.

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